

Internship Report 2024
Athiba Balasubramanian | Arup

ARUP

Name: **Athiba Balasubramanian**
Designation: **Sponsored Student**
Team: **Integrated City Planning - ICP**
Discipline: **Urban Design**
Duration: **February - December 2024**
Reports to: **Serena Girani (Senior Architect)**
Location: **Milan Office**

"Athiba worked well with the team and was a pleasure to have him with us in these months. His knowledge regarding urban planning and architecture allows him to collaborate both on masterplan design projects, and on strategic research projects, in addition the team reported that his skills with Autocad and especially with Rhino were of great support in several occasions. In the occasions I had to work directly with Athiba I noticed good communication and organizational skills. Athiba is clearly eager to learn more and has a proactive attitude that will support him in building a strong experience in urban planning and design. Athiba was able to support the team with generosity in stressful moments and with tight schedules, and I see he is able to interact well with different direct team mates/supervisors. I may be wrong but I think one good suggestion to Athiba would be not to be afraid to ask and express clearly from the beginning if he does not understand a task, in order to avoid any delay due to lack of communication. Finally, I strongly encourage Athiba to start an Italian course and practice as much as he can the language if he is willing to work in Italy, as I know it could be a barrier in the future, and, on the other hand I am sure his understanding and his listening is mature enough to start speaking and going to the next language level.

So thank you Athiba and keep on being so curious and positive!"
- **Serena Girani**, Senior Architect ICP

"I had the opportunity to work with Athiba on a couple of projects over the past year (i.e. Scalo Pavia, C40 Bologna etc.). Athiba has always performed above expectation. I really appreciated his positive attitude towards the team, his knowledge, patience and commitment. He showed to be versatile, precise, and curious and open to new ideas and tools. I believe that Athiba has the appropriate skills to successfully deal with complex projects. I have also noticed a growth over this period, and I encourage Athiba to continue on this path with the same enthusiasm and dedication."
- **Chiara Fraticelli**, Architect ICP

"Athiba demonstrated himself as a very prepared teammate, passionate about his work. In many occasions I noticed his constant wish to learn and I appreciated the most that he listens and asks questions, which in my view is the best way to improve. Most of the projects we worked together, were stressful and with tight deadlines, during which Athiba showed his ability to stay focused and deliver high-quality work under pressure meeting all deadlines. From personal perspective, Athiba is very kind and has positive attitude, our collaboration was smooth and pleasant. Keep up the great work and personal growth!"
- **Aleksandra Chivikova**, Senior Architect ICP

"I've worked with Athiba on on-going projects, competitions and bids. Athiba always demonstrated a great attitude in approaching different tasks and challenges, demonstrating a very valuable personality and a very respectful and kind communication with different people of the team and with people from other offices. I've appreciated his organisation and flexibility that allowed him to adapt to different tasks, even under pressure, and to provide his touch on the work we were doing together. I believe Athiba is a promising professional and I recommend him to continue on this path to progress on his career and to continue cultivating his talent and attitude."
- **Riccardo Erata**, Architect ICP

A Journey of Growth in Urban Design

From the moment I first enrolled in an urban design course during my bachelor's program in architecture, I knew I had found my calling. This passion led me to seize every opportunity to build a strong foundation in the field. My journey began with a theoretical course that piqued my interest, and soon after, I found myself at the National University of Singapore in 2015. There, I immersed myself in a postgraduate course on Urban Design and Analysis, working alongside experienced colleagues from around the world. Engaging with professors from the European Union, I gained invaluable insights into the profound impact of urban design on daily life.

Upon completing my bachelor's degree, I spent 4.5 years in India working on a variety of commercial and residential projects. This period was instrumental in honing my architectural expertise and deepening my understanding of the built environment. However, my ambition to specialize further in urban design remained undiminished. Throughout my professional career, I actively explored graduate programs that would align with my aspirations and provide the ideal setting to advance my journey.

Choosing Milan, Italy, was a deliberate decision influenced by the city's rich architectural heritage, cultural vibrancy, and historical significance. Enrolling at Politecnico di Milano, renowned for its program in architecture and urban design, provided me with direct access to a diverse network of practitioners, educators, and peers. Over the past two years, this environment has not only expanded my knowledge and skills but also fostered valuable friendships. Collaborating on various urban projects with individuals from different backgrounds underscored the importance of multidisciplinary teamwork. Each person brought unique perspectives, pushing boundaries and contributing to collective growth.

With this global perspective, I sought a firm that embodied these characteristics. Arup emerged as the natural next step in my urban design career. An avid follower of Arup's transformative work in architecture, urban design, engineering, and sustainability, I was eager to contribute to their vision of shaping the future. After eight months with the firm, I can confidently affirm that this was the right choice.

My introduction to Arup began with a positive and engaging interview process. The team shared the history of Arup, the role of the Milan office, and the objectives of the Integrated City Planning team. I discussed my experiences, educational background, and aspirations within the firm. The casual yet informative nature of the interview left a lasting impression, and receiving the offer within a month was exhilarating.

Starting at Arup, I quickly acclimated to the dynamic office environment and protocols. My first project was a competition with C40 Reinventing Cities, focusing on regenerating an abandoned site adjacent to a railway station in central Italy. Under the guidance of senior architect and line manager Serena Girani and architect Aleksandra, I dived into developing schematic diagrams and illustrations for project strategies before progressing to massing models for the masterplan. This experience set the tone for my time at Arup, exposing me to a range of tasks across projects in Italy, Canada, and Central Asia. Beyond full-time projects, I also contributed to research, illustrations, and analyses for strategic planning initiatives within the team.

The Arup Milan office fosters an environment conducive to collaboration and innovation. Featuring an open-plan layout with hot desks, employees can book spots and move around, promoting interaction with colleagues from different teams and grades. The workspace is flooded with natural light, thanks to expansive windows, and reflects the firm's commitment to sustainability through smart LED fixtures and indoor air quality monitors. The office culture is enriched by team-building activities, including sporting events and organized lunches, and emphasizes well-being by providing healthy options like fresh fruits. Ample spaces for socializing and informal meetings make it a relaxing yet energetic place to work.

One of the most rewarding aspects of my internship has been the interactions with senior members of the team. Their insights into design processes and approaches have been invaluable. Through these engagements, I have strengthened both my hard and soft skills, contributing to my professional growth in urban design.



Photo by Marco Introini



Photo by Marco Introini

The office is located in the historic Palazzo Meroni building built in the 1900s. The structure features an eclectic style with Art Nouveau and Beaux-Arts influences.



Open office layout with flexible workspaces encourages you to engage in conversations with different teams and helps avoid monotony.

Selected Works

1. C40 Reinventing Cities - Italy (6 weeks):

I started at Arup by contributing to the C40 Reinventing Cities project in central Italy. My role involved quickly familiarizing myself with the project proposal and objectives to prepare the report and presentation panels for the Phase II submission. I focused on developing schematic diagrams, isometrics, and sections that illustrated the project's challenges and key strategic principles.

2. Logistics hub, Northern Italy - Submitted to project (6-8 weeks):

In this port regeneration project, I was involved from the outset, conducting research and analyzing transportation connections and networks around the site. I collaborated with clients and transportation consultants to iterate on the masterplan, focusing on freight logistics. My contributions included developing 3D models and isometrics at each stage, which enhanced my understanding of large-scale projects and the importance of integrating strategies that improve social value for both project inhabitants and city residents.

3. Invest in Arup - Global Skills Application (4 weeks):

Tasked with drafting a proposal for Arup's internal research fund program, I explored the concept of Nudging Environments. I conducted an extensive literature review of over 30 sources, including papers, articles, and case studies. This research culminated in an outline for a pilot project that could be developed with real-life implications for our clients.

4. Port Toronto - Toronto, Canada (2 weeks):

As part of a proposal to incorporate intelligent mobility into the Billy Bishop Airport masterplan for 2050, I collaborated with the Canadian transport team to develop strategic isometric illustrations. These visuals were integral in showcasing the proposed mobility solutions and ensuring the masterplan's alignment with future transportation needs.

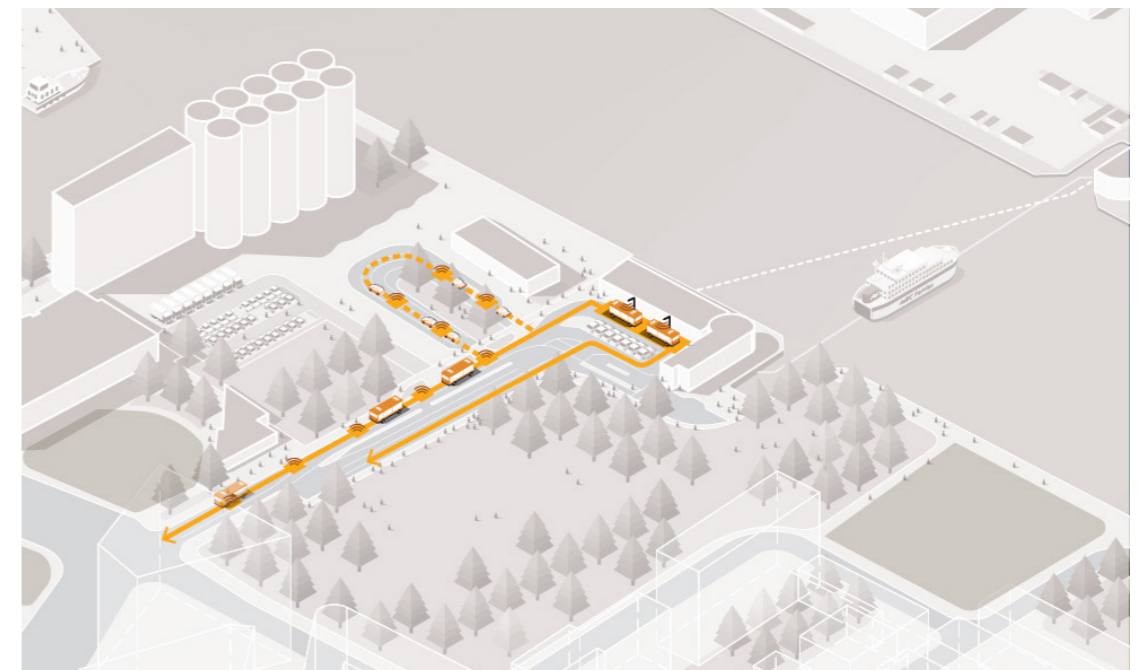
5. Campus Masterplan, Central Asia - Submitted to project (2 weeks):

I contributed to the masterplan development for the university in Central Asia, working under tight deadlines with a larger team based in Istanbul. My role involved creating concept diagrams, 3D models, and illustrations to explain the design ideologies behind three masterplan variations, addressing the project's unique challenges and requirements. We developed three masterplan concepts, the architectural massing, landscape design, and the larger urban strategy.

Port Toronto, Billy Bishop Airport



The isometric base of the Billy Bishop airport entry point with the ferry terminal, the illustration helped overlay the strategic planning scenarios.



Isometric showing the access controls for zero emission vehicles (ZEV) through an electric fleet (logistics, service and maintenance fleets) electric ride hailing and pantographs for ev charging.

Research Proposal



Invest in Arup | Global Skills Application

An internal funding for development projects across varying fields and topics, the goal of this program is to push research and development in one among the following initiatives such as Advanced technology & research, Community engagement, Innovation, SGDs, and so on. I got the opportunity to work on the proposal, do a literature study and draft the report on the topic of Nudging environments (*brief detail below*).

The project ***“Co-design Nudging Environments and Policies Towards a Sustainable and Regenerative Use of Public Space – Toolkit & Guidelines”*** spearheaded by Arup, creates comprehensive guidelines to design public spaces and policies that encourage sustainable and regenerative lifestyles. According to the EU Commission for Decarbonization, behavioural changes can potentially reduce CO2 equivalent emissions by about 7% by 2050. This project leverages this potential by engaging private clients and public decision-makers in sustainable practices.

Aim:

The project seeks to foster behavioural change and create nudging environments that inspire city inhabitants to adopt sustainable and regenerative lifestyles. It is based on the ongoing “Bologna Centro Storico” project in collaboration with the Bologna municipality, with a potential expansion to a second project in Dublin.

Objectives:

Develop Participative Tools: Identify needs and habits related to public space usage.

Utilize Behavioural Sciences: Drive individual-level changes and understand their cumulative impact on decarbonization and sustainability goals.

Create an Operational Toolkit: Document methodologies and identify potential locations for expanding findings.

Plan a Pilot Project: Implement a co-designed pilot project in Bologna focusing on mobility-related behavioural changes, with potential co-funding from local stakeholders.

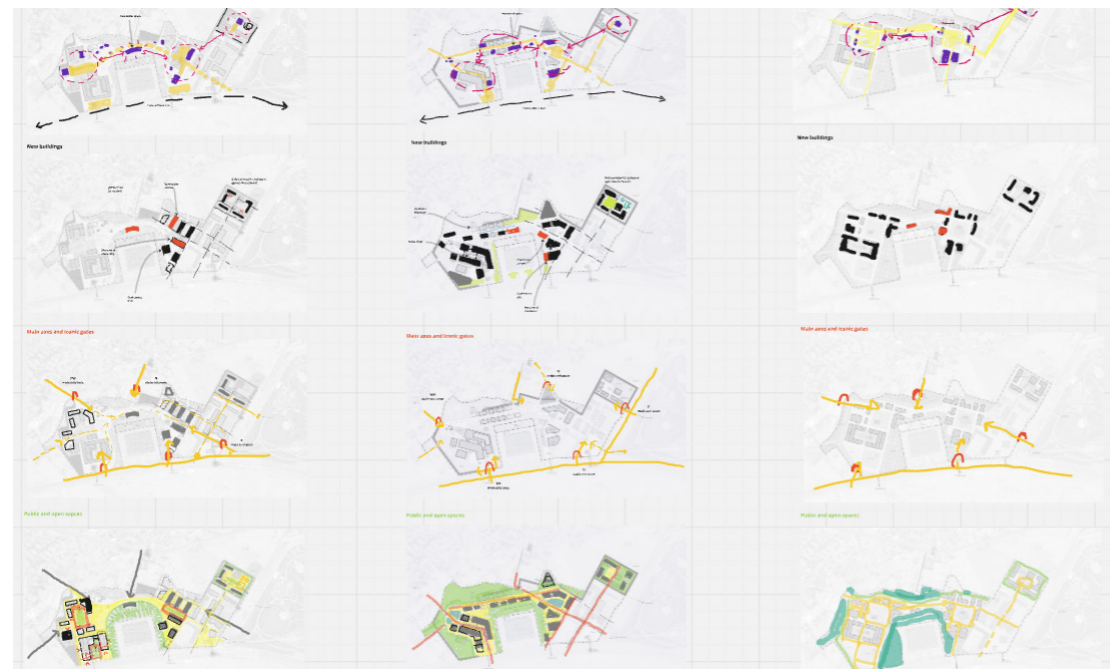
The project recognizes the importance of civic involvement in tackling climate change, as highlighted by the International Energy Agency’s report on the net-zero roadmap for 2050. Promoting pro-environmental behaviours at the neighbourhood level is crucial for meeting these targets. The project builds on the benefits of nudge theory, aiming to create awareness, test new policies, and gather real-time user feedback.

Port Toronto, Billy Bishop Airport



Isometric showing ICT solutions such as access control system, dynamic lane management, dynamic parking management using progressive charging (ie. dynamic pricing)

Campus Masterplan, Central Asia



A snapshot of the mrioboard showing the different sketches and layers for each variant of the masterplan, evaluating the access points, landscape features, social connectors...



Typical workspace at Arup, Milan with natural light, ample room, and dual screens to ensure the work environment is optimal, efficient and comfortable.

Selected works summary

The selected works highlight the diverse projects undertaken at Arup, Milan, with a primary focus on urban-scale initiatives. These projects address complex challenges, including transforming unused land to regenerate neighborhoods, developing advanced mobility strategies to meet future needs, and creating logistics hubs to enhance the social and economic value of secondary cities. My contributions and learnings have consistently aimed at fostering sustainable urban living, effectively tackling climate change, and improving social equity and value for residents.

The images illustrate key aspects of the completed projects from my internship. In addition to these, I am actively involved in the masterplan strategy diagrams and illustrations for a commercial project in Rome with the Architect Francis Kéré & team and have recently commenced work on a masterplan for an educational institution in Central Asia. These experiences have allowed me to collaborate with multidisciplinary teams from around the globe, further enriching my understanding and expertise in urban planning and sustainable development.

Reflections and Future Aspirations

My internship at Arup Milan has been a transformative experience. The exposure to diverse projects across different regions has broadened my perspective on urban design challenges and solutions. Interacting with seasoned professionals has enriched my learning, enabling me to apply theoretical knowledge to practical scenarios effectively.

Arup's commitment to innovation and sustainability resonates with my personal values. The firm's emphasis on multidisciplinary collaboration has reinforced the significance of diverse viewpoints in creating holistic urban solutions. I have developed a deeper appreciation for the intricate balance between architectural design, environmental considerations, and social impact.

Looking ahead, I am eager to continue this partnership with Arup beyond my graduation. The skills and experiences gained during this internship have prepared me to tackle contemporary urban challenges. I am excited about contributing to projects that promote sustainability and enhance the quality of life for communities worldwide.

In conclusion, my time at Arup Milan has not only honed my professional abilities but also solidified my dedication to shaping a more sustainable and healthier future for our planet. I am grateful for the opportunity to be part of a team that is at the forefront of transformative urban design, and I look forward to the journey ahead.

ICP Team and workspace



My fellow team members who have been so kind, welcoming and supportive these past few months, I am super grateful to have met each and every one of them (from the left) we have Gian, myself, Martina, Chiara and Benedetta.



Office bay and the view

